



# NORLITE, LLC

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September 27, 2013

Ms. Nancy Baker  
Deputy Regional Permit Administrator  
New York State Department of Environmental Conservation  
Region 4  
1130 North Westcott Road  
Schenectady, NY 12306-2014

RETURN RECEIPT REQUESTED VIA EMAIL

Mr. Kenneth Eng  
Air Compliance Branch  
United States Environmental Protection Agency  
Region 2  
290 Broadway  
New York, NY 10007-1866

RETURN RECEIPT REQUESTED VIA EMAIL

Re: Norlite Corporation-MACT Excessive Exceedances Report  
Kiln 1: 09/10/13 – 09/26/13  
Kiln 2: 09/10/13 – 09/26/13

Dear Sir/Madam:

In accordance with 40 CFR 63.1206(c)(3)(vi), the Norlite, LLC (Norlite) is submitting an "Excessive Exceedance Report" for the timeframe of 09/10/13 thru 09/26/13. The attached document explains each of the "malfunctions" for Kilns One and Two.

The results of the investigation concluded a majority of the waste feed cutoffs were a result of the simultaneous instantaneous limit associated with the frontend kiln pressure and the rear chamber pressure. These cutoffs were attributable to a reduction in the overall system draft caused by baghouse dust plugging the scrubber system. A three day kiln shutdown occurred starting on September 15, 2013 to address issues in the baghouse and scrubber systems. The manufacture of the bag for the baghouse system provided Norlite will several recommendations to prevent further premature bag failure. During the shutdown Norlite implemented these recommendations as well as has increased operational awareness towards keeping the baghouse hoppers emptied and maintained. Also during the shutdown, Norlite increased the efficiency of the fresh water quench system which keeps the throat of the MMV open. The improved efficiency help keep soda ash solids from building up and closing off the MMV which leads to high Venturi differential pressures. Since the shutdown, Kiln 1 has been operating at a great efficiency with minimal downtime. Norlite is continuing to work with the bag manufacturer as well as a third party combustion engineer to provide further recommendations.

Norlite has been working on a project to help resolve stack gas span cutoffs in general for almost a year. Norlite has been working with the Department to install a new optical flow technology to monitor stack gas flow rate. A test unit has been installed on Kiln 1 and RATA tested to obtain additional information to be used in future calculations. Norlite is working to have the unit in Kiln 1 completely certified and approved for operation by the Fall of 2013. Before the unit can be certified and officially used at the kiln, Norlite and the Department must first work several operational parameters for the monitoring device. Norlite has presented data which was collected when the optical flow sensor had RATA testing done on it to start the



## NORLITE, LLC

discussion for these operational parameters. This data is being compared with RATA data collected at the same time on the current stack gas flow measuring technology. After final approval is given for the unit on Kiln 1, Norlite will install a unit on Kiln 2 with an expedited schedule for completion which will hopefully see the unit in certified operation by late Fall or early Winter of 2013.

Norlite has also been working with the Department to improve LGF delivery and handling at the kilns to address these types of cutoffs. The Department has conditionally approved Norlite's plan to remove the minimum LLGF Line Pressure requirement, allow a positive displacement pump to be used for fuel flow control, and allow the use of a recirculation line for use during times when off LGF. The Department has requested a six month study be conducted without a minimum LLGF Line Pressure requirement. The study has been underway since May 01, 2103 and will be completed on October 31, 2013. Norlite is continuing to search for a positive displacement pump which will allow variable speed control, have tight pump tolerance, and have suitable reliability for long term use. Norlite will have a pump in place sooner but no later than December of 2013. Norlite will submit a final report to the Department in December 2013 detailing the findings from the study without a minimum LLGF Line Pressure. Norlite is hopeful to have final approval from the Department early 2014 for the positive displacement pump which is installed and for the final removal of the LLGF Line Pressure requirement. To further help develop a suitable fuel delivery system at the kilns, Norlite has enlisted the help of SPEC Engineering which specializes in process engineering and development. With addition of SPEC Engineering and the combustion expertise from Arcadis, Norlite is very hopeful to have a fully functional fuel delivery system at the kilns which will help reach a steady state operation.

All of the malfunctions that occurred were consistent with our Startup, Shutdown and Malfunction Plan (SSMP). As approved by the NYSDEC on February 6, 2006, these reports are being sent electronically.

Should you have any questions regarding this letter, please contact me at (518) 235-0401 or email at: [tom.vanvranken@tradebe.com](mailto:tom.vanvranken@tradebe.com).

Sincerely,

*Thomas Van Vranken*

Thomas Van Vranken  
Environmental Manager

### Attachments

ecc: Don Spencer, NYDEC – R4 w/attachments  
James Lansing, NYSDEC – CO w/attachments  
Joseph Hadersbeck, NYSDEC – R4w/attachments  
Jim Quinn, NYSDEC – R4 w/attachments  
Tita LaGrimas – Tradebe



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 1  
09/10/13 - 09/26/13

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
9/11/2013	5:47:42	9/11/2013	5:58:00	0:10:18	169	Malfunction	Kiln 2 Was Down for Maintenance and the Primary Air Isolation Valve Was Not Closed Which Made Maintaining the Kiln 1 Rear Chamber Pressure Difficult	Back Chamber Pressure HRA	Opl	The Valve Was Closed and Locked Out and Made Part of the Kiln Shutdown Inspection
9/12/2013	5:37:29	9/12/2013	5:38:33	0:01:04	170	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Simultaneous Front and Back Chamber Pressure	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared
9/12/2013	6:48:52	9/12/2013	6:49:23	0:00:31	171	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Front Kiln Pressure, 1 Second Delay	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared
9/12/2013	21:10:38	9/12/2013	21:52:42	0:42:04	172	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Simultaneous Front and Back Chamber Pressure	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared
9/12/2013	22:38:35	9/12/2013	22:39:13	0:00:38	173	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Simultaneous Front and Back Chamber Pressure	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared
9/12/2013	22:40:03	9/12/2013	22:40:45	0:00:42	174	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Simultaneous Front and Back Chamber Pressure	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared
9/13/2013	1:16:16	9/13/2013	1:16:54	0:00:38	175	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Simultaneous Front and Back Chamber Pressure	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared
9/13/2013	6:12:26	9/13/2013	6:13:21	0:00:55	176	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Simultaneous Front and Back Chamber Pressure	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 1  
09/10/13 - 09/26/13

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
9/13/2013	7:46:28	9/13/2013	7:46:53	0:00:25	177	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Back Chamber Pressure, 1 Second Delay	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared
9/13/2013	7:46:57	9/13/2013	7:47:19	0:00:22	178	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Simultaneous Front and Back Chamber Pressure	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared
9/13/2013	8:49:37	9/13/2013	9:50:48	1:01:11	179	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Simultaneous Front and Back Chamber Pressure	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared
9/14/2013	14:27:25	9/14/2013	14:27:46	0:00:21	180	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Front Kiln Pressure, 1 Second Delay	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared
9/14/2013	14:29:07	9/14/2013	16:47:05	2:17:58	181	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Front Kiln Pressure, 1 Second Delay	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared
9/14/2013	16:48:01	9/14/2013	16:48:39	0:00:38	182	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Front Kiln Pressure, 1 Second Delay	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared
9/14/2013	17:35:02	9/14/2013	18:38:39	1:03:37	183	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Front Kiln Pressure, 1 Second Delay	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared
9/15/2013	2:14:17	9/15/2013	2:14:48	0:00:31	184	Malfunction	The Kiln Was Experiencing Reduced Systemic Draft Due to Scrubber and Mist Pad Plugging. The ID Fan Was Reduced to Address the High Scrubber Differential Pressures	Front Kiln Pressure, 1 Second Delay	Opl	A Kiln Shutdown Occurred on 09/15/13 In Which Extra Quench Water Was Added to Keep the MMV Throat Cleared



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 1  
09/10/13 - 09/26/13

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
9/18/2013	12:47:40	9/18/2013	12:48:20	0:00:40	185	Malfunction	The Sample Loop Was Left Partially Closed After Maintenance Was Conducted on A Pump Which Caused the Instantaneous Upper Instrument Setpoint to be Reached for Scrubber pH Span	Scrubber pH	Span	The Sample Loop Was Opened Completely Which Returned Proper Flow Into the Sample Loop
9/18/2013	12:49:39	9/18/2013	12:49:58	0:00:19	186	Malfunction	The Sample Loop Was Left Partially Closed After Maintenance Was Conducted on A Pump Which Caused the Instantaneous Upper Instrument Setpoint to be Reached for Scrubber pH Span	Scrubber pH	Span	The Sample Loop Was Opened Completely Which Returned Proper Flow Into the Sample Loop
9/22/2013	16:45:07	9/22/2013	17:14:20	0:29:13	187	Malfunction	Mist Pad Rinse Water Flow Rate Caused Soda Ash Solids and Baghouse Dust to Collect On the Stack Gas Probe Which Caused the Instantaneous Upper Instrument Setpoint to be Reached for Stack Gas Span	Stack Gas Flow Rate	Span	I&E Cleaned the Probe and Inspected the Unit for Damage
9/23/2013	10:34:51	9/23/2013	10:35:45	0:00:54	188	Malfunction	Water Droplets From the Mist Pad Contacted the Stack Gas Probe Which Caused the Instantaneous Upper Instrument Setpoint to be Reached for Stack Gas Span	Stack Gas Flow Rate	Span	The ID Fan Speed Was Reduced to Help Stop Water Droplet Movement Up the Stack
9/23/2013	12:06:02	9/23/2013	12:08:17	0:02:15	189	Malfunction	Water Droplets From the Mist Pad Contacted the Stack Gas Probe Which Caused the Instantaneous Upper Instrument Setpoint to be Reached for Stack Gas Span	Stack Gas Flow Rate	Span	The ID Fan Speed Was Reduced to Help Stop Water Droplet Movement Up the Stack
9/25/2013	21:55:18	9/25/2013	21:58:18	0:03:00	190	Malfunction	After Cleaning the Stack Gas Probe Several Times, Inspecting the probe for Damage, and Conducting Troubleshooting, It Was Determined that Excess Water In the Fuel Was Causing the Instantaneous Upper Instrument Setpoint to be Reached for Stack Gas Flow Span	Stack Gas Flow Rate	Span	The Fuel Source Was Switched and Steady State Operations Resumed
9/25/2013	21:59:27	9/25/2013	22:16:57	0:17:30	191	Malfunction	After Cleaning the Stack Gas Probe Several Times, Inspecting the probe for Damage, and Conducting Troubleshooting, It Was Determined that Excess Water In the Fuel Was Causing the Instantaneous Upper Instrument Setpoint to be Reached for Stack Gas Flow Span	Stack Gas Flow Rate	Span	The Fuel Source Was Switched and Steady State Operations Resumed
9/25/2013	22:47:07	9/25/2013	22:49:09	0:02:02	192	Malfunction	After Cleaning the Stack Gas Probe Several Times, Inspecting the probe for Damage, and Conducting Troubleshooting, It Was Determined that Excess Water In the Fuel Was Causing the Instantaneous Upper Instrument Setpoint to be Reached for Stack Gas Flow Span	Stack Gas Flow Rate	Span	The Fuel Source Was Switched and Steady State Operations Resumed
9/26/2013	5:44:20	9/26/2013	5:44:42	0:00:22	193	Malfunction	After Cleaning the Stack Gas Probe Several Times, Inspecting the probe for Damage, and Conducting Troubleshooting, It Was Determined that Excess Water In the Fuel Was Causing the Instantaneous Upper Instrument Setpoint to be Reached for Stack Gas Flow Span	Stack Gas Flow Rate	Span	The Fuel Source Was Switched and Steady State Operations Resumed



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 1  
09/10/13 - 09/26/13

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
9/26/2013	7:09:40	9/26/2013	7:21:31	0:11:51	194	Malfunction	After Cleaning the Stack Gas Probe Several Times, Inspecting the probe for Damage, and Conducting Troubleshooting, It Was Determined that Excess Water In the Fuel Was Causing the Instantaneous Upper Instrument Setpoint to be Reached for Stack Gas Flow Span	Stack Gas Flow Rate	Span	The Fuel Source Was Switched and Steady State Operations Resumed
9/26/2013	7:59:19	9/26/2013	8:01:57	0:02:38	195	Malfunction	After Cleaning the Stack Gas Probe Several Times, Inspecting the probe for Damage, and Conducting Troubleshooting, It Was Determined that Excess Water In the Fuel Was Causing the Instantaneous Upper Instrument Setpoint to be Reached for Stack Gas Flow Span	Stack Gas Flow Rate	Span	The Fuel Source Was Switched and Steady State Operations Resumed
9/26/2013	8:05:24	9/26/2013	8:51:58	0:46:34	196	Malfunction	After Cleaning the Stack Gas Probe Several Times, Inspecting the probe for Damage, and Conducting Troubleshooting, It Was Determined that Excess Water In the Fuel Was Causing the Instantaneous Upper Instrument Setpoint to be Reached for Stack Gas Flow Span	Stack Gas Flow Rate	Span	The Fuel Source Was Switched and Steady State Operations Resumed



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 2  
09/10/13 - 09/26/13

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
9/13/2013	21:22:08	9/13/2013	21:30:51	0:08:43	115	Malfunction	A Dirty Recycle Flow Meter Caused the Instantaneous Upper Instrument Setpoint to be Reached for Scrubber Recirc. Rate Span	Scrubber Recirc. Rate	Span	The Flow Meter Was Cleaned and Checked By I&E For Proper Operation
9/22/2013	0:00:42	9/22/2013	0:01:17	0:00:35	116	Malfunction	Water Droplets From the Mist Pad Contacted the Stack Gas Probe Which Caused the Instantaneous Upper Instrument Setpoint to be Reached for Stack Gas Span	Stack Gas Flow Rate	Span	The ID Fan Speed Was Reduced to Help Stop Water Droplet Movement Up the Stack